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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,546	10/01/2003	Adam L. Cohen	P-US079-A-SC	9561

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EXAMINER

VAN, LUAN V

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/677,546

**Applicant(s)**

COHEN, ADAM L.

**Examiner**

Luan V. Van

**Art Unit**

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

Applicant's amendment of June 13, 2006 does not render the application allowable.

***Status of Objections and Rejections***

The objection to the drawings has been withdrawn in view of Applicant's amendment.

The rejection of claims 7, 9-12 and 17-22 under 35 U.S.C. 112, second paragraph, is withdrawn in view of Applicant's amendment.

The rejection of claims 1-24 provisionally under the judicially created doctrine of obviousness-type double patenting over claims 1-52 of copending Application No. 10677498 in view of Cohen '630 is withdrawn in view of Applicant's amendment.

All other rejections from the previous office action are maintained.

***Election/Restrictions***

Applicant's election of claims 1-24 in the reply filed on June 13, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-24 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-48 of copending Application No. 10434519 in view of McFarland et al.

Regarding claims 1-24, the copending application claims the following method:

A process for forming a multilayer three-dimensional structure, comprising: (a) forming a layer of at least one material on a substrate that may include one or more previously deposited layers of one or more materials; (b) repeating the forming operation of "(a)" one or more times to form at least one subsequent layer on at least one previously formed layer to build up a three-dimensional structure from a plurality layers; wherein the forming of at least one layer, comprises: supplying a substrate on which one or more successive depositions of one or more materials may have occurred; (2) supplying a multi-cell mask, wherein each cell is separated from other cells by a

Art Unit: 1753

material, wherein the cells of the mask comprise independently controllable electrodes, and wherein a pattern of dielectric material extends beyond the cell electrodes for contacting the substrate and for forming electrochemical process pockets when such contact is made; (3) bringing the multi-cell mask and the substrate into contact such that electrochemical process pockets are formed having a desired registration with respect to any previous depositions and providing a desired electrolyte solution such that the solution is provided within the electrochemical process pockets; and (4) applying a desired electrical activation to at least one desired cell electrode, to the substrate, and to any other desired electrode or electrodes, such that a desired material is selectively deposited onto the substrate.

In addition, the copending application claims the steps of depositing structural materials and sacrificial materials (claim 25 and 28); planarizing the surface of the deposited material (claim 15 and 28); using a conformable contact mask (claim 47). The mask of the copending application is a multi-cell mask, since pockets or cells are created by the masking material on the mask.

The difference between the claims in the copending application and the instant claims is that the claims do not explicitly teach the cells of the mask comprise independently controllable electrodes.

McFarland et al. teach a method for electrochemically depositing materials on the substrate using an array of electrodes, wherein the electric potential of each electrode can be independently varied (column 3 lines 36-65). McFarland et al. teach that the

Art Unit: 1753

method provides a potential masking method which generates spatially varying electric, magnetic, and/or chemical potentials across a substrate (column 3 lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of the copending application by using a mask having independently controllable electrodes as taught by McFarland et al., because having independently controllable electrodes allows the electric potential to be varied, and thus allows the thickness to be controlled at different locations.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-24 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-50 of copending Application No. 10271574 in view of McFarland et al.

Regarding claims 1-24, the copending application claims the following method:

A process for forming a multilayer three-dimensional structure, comprising: (a) forming a layer of at least one material on a substrate that may include one or more previously deposited layers of one or more materials; (b) repeating the forming operation of "(a)" one or more times to form at least one subsequent layer on at least one previously formed layer to build up a three-dimensional structure from a plurality layers; wherein the forming of at least one layer, comprises: supplying a substrate on which one or more successive depositions of one or more materials may have occurred; (2) supplying a multi-cell mask, wherein each cell is separated from other cells by a

Art Unit: 1753

material, wherein the cells of the mask comprise independently controllable electrodes, and wherein a pattern of dielectric material extends beyond the cell electrodes for contacting the substrate and for forming electrochemical process pockets when such contact is made; (3) bringing the multi-cell mask and the substrate into contact such that electrochemical process pockets are formed having a desired registration with respect to any previous depositions and providing a desired electrolyte solution such that the solution is provided within the electrochemical process pockets; and (4) applying a desired electrical activation to at least one desired cell electrode, to the substrate, and to any other desired electrode or electrodes, such that a desired material is selectively deposited onto the substrate.

In addition, the copending application claims the steps of depositing structural materials and sacrificial materials (claim 21); planarizing the surface of the deposited material (claim 22); using a conformable contact mask (claim 1); varying the temperature of the conformable mask (claim 4), which can inherently create bubbles to inhibit etching or deposition; and detecting a first electrical parameter whose value depends on the location of a deposit within the opening (claim 28-33). The mask of the copending application is a multi-cell mask, since pockets or cells are created by the masking material on the mask.

The claims in the copending application and the instant claims differ in that the copending claims not explicitly teach the cells of the mask comprise independently controllable electrodes.

McFarland et al. teach a method for electrochemically depositing materials on the substrate using an array of electrodes, wherein the electric potential of each electrode can be independently varied (column 3 lines 36-65). McFarland et al. teach that the method provides a potential masking method which generates spatially varying electric, magnetic, and/or chemical potentials across a substrate (column 3 lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of the copending application by using a mask having independently controllable electrodes as taught by McFarland et al., because having independently controllable electrodes allows the electric potential to be varied, and thus allows the thickness to be controlled at different locations.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-24 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10724515 in view of McFarland et al.

Regarding claims 1-24, the copending application claims the following method:

A process for forming a multilayer three-dimensional structure, comprising: (a) forming a layer of at least one material on a substrate that may include one or more previously deposited layers of one or more materials; (b) repeating the forming operation of "(a)" one or more times to form at least one subsequent layer on at least one previously formed layer to build up a three-dimensional structure from a plurality



layers; wherein the forming of at least one layer, comprises: supplying a substrate on which one or more successive depositions of one or more materials may have occurred; (2) supplying a multi-cell mask, wherein each cell is separated from other cells by a material, wherein the cells of the mask comprise independently controllable electrodes, and wherein a pattern of dielectric material extends beyond the cell electrodes for contacting the substrate and for forming electrochemical process pockets when such contact is made; (3) bringing the multi-cell mask and the substrate into contact such that electrochemical process pockets are formed having a desired registration with respect to any previous depositions and providing a desired electrolyte solution such that the solution is provided within the electrochemical process pockets; and (4) applying a desired electrical activation to at least one desired cell electrode, to the substrate, and to any other desired electrode or electrodes, such that a desired material is selectively deposited onto the substrate.

In addition, the copending application claims the steps of planarizing the surface of the deposited material (claim 9); using a contact mask (claim 1). The mask of the copending application is a multi-cell mask, since pockets or cells are created by the masking material on the mask.

The difference between the claims in the copending application and the instant claims is that the copending claims do not explicitly teach the cells of the mask comprise independently controllable electrodes.

McFarland et al. teach a method for electrochemically depositing materials on the substrate using an array of electrodes, wherein the electric potential of each electrode

can be independently varied (column 3 lines 36-65). McFarland et al. teach that the method provides a potential masking method which generates spatially varying electric, magnetic, and/or chemical potentials across a substrate (column 3 lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of the copending application by using a mask having independently controllable electrodes as taught by McFarland et al., because having independently controllable electrodes allows the electric potential to be varied, and thus allows the thickness to be controlled at different locations.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Response to Arguments***

In the arguments presented on page 11 of the amendment, the applicant argues that the copending application '498 is an improvement of the present invention, which is the base invention. The examiner agrees that the present invention is the base invention. Therefore, the rejection of claims 1-24 provisionally under the judicially created doctrine of obviousness-type double patenting over claims 1-52 of copending Application No. 10677498 in view of Cohen '630 is withdrawn in view of Applicant's amendment.

Furthermore, the applicant argues that copending application '519, copending application '574, and copending application '515 do not claim a multi-cell mask. The examiner acknowledges that the words "multi-cell mask" is not explicitly used.

Art Unit: 1753

However, the contact mask or conformable mask of copending application '519, copending application '574, and copending application '515 is broadly interpreted to be a multi-cell mask, since the mask as defined in the specification comprises a plurality of openings, i.e. cells, to selectively deposit or etch a plurality of adhered layers.

According to MPEP 804 (II) (B):

The specification can \* be used as a dictionary to learn the meaning of a term in the patent claim. \*\*>Toro Co. v. White Consol. Indus., Inc., 199 F.3d 1295, 1299, 53 USPQ2d 1065, 1067 (Fed. Cir. 1999)("[W]ords in patent claims are given their ordinary meaning in the usage of the field of the invention, unless the text of the patent makes clear that a word was used with a special meaning."); *Renishaw PLC v. Marposs Societa* per Azioni, 158 F.3d 1243, 1250, 48 USPQ2d 1117, 1122 (Fed. Cir. 1998) ("Where there are several common meanings for a claim term, the patent disclosure serves to point away from the improper meanings and toward the proper meanings."). See also MPEP § 2111.01. Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970).

Furthermore, according to MPEP 804.02(II):

A rejection based on a nonstatutory type of double patenting can be avoided by filing a terminal disclaimer in the application or proceeding in which the rejection is made. *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Knohl*, 386 F.2d 476, 155 USPQ 586 (CCPA 1967); and *In re Griswold*, 365 F.2d 834, 150 USPQ 804 (CCPA 1966). The use of a terminal disclaimer in overcoming a nonstatutory double patenting rejection is in the public interest because it encourages the disclosure of additional developments, the earlier filing of applications, and the earlier expiration of patents whereby the inventions covered become freely available to the public. *In re Jentoft*, 392 F.2d 633, 157 USPQ 363 (CCPA 1968); *In re Eckel*, 393 F.2d 848, 157 USPQ 415 (CCPA 1968); and *In re Braithwaite*, 379 F.2d 594, 154 USPQ 29 (CCPA 1967).

Applicant's arguments with respect to copending application '519, copending application '574, and copending application '515 have been fully considered but they are not persuasive. Therefore, the rejections are maintained.

***Conclusion***

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

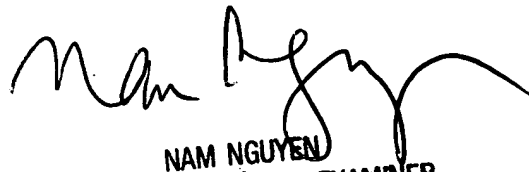
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan V. Van whose telephone number is 571-272-8521. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1753

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LWV  
July 21, 2006



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